

## ABSTRACT

A homogeneous assay for determining the deoxynivalenol (DON) content in grains uses the technique of fluorescence polarization. A grain extract is prepared by shaking a crushed grain sample with water. A mixture is prepared by combining the grain extract with a tracer and with monoclonal antibodies specific to DON. The tracer is able to bind to the monoclonal antibodies to produce a detectable change in fluorescence polarization. The tracer is prepared by conjugating DON to a suitable fluorophore. The fluorescence polarization of the mixture is measured. The DON concentration of the mixture may be calculated using a standard curve obtained by measuring the fluorescence polarization of a series of DON solutions of known concentration.